

TRUBINER A. L.

77446
SW/133-60-1-7/30Dobrohotov, N. M., Koberza, I. I., Garchenko, V. T., and Trubinier, A. L.

Conversion of 220-Ton Open Hearth Furnace to Natural

Gas

Stal', 1960, Nr 1, pp 29-32 (USSR)

PERIODICAL:

ABSTRACT:
This is a description of a method of conversion of open hearth furnaces from the coke-as-blank furnace to gas mixture to firing by cold natural gas only. The work was done by the Institutes of Gas Utilization and of Ferrous Metallurgy of the USSR Academy of Sciences (Institute Ispol'tzovaniya Sist. Chernykh metallov AN USSR) in cooperation with the "Zaporozhstal'" (Zaporozh'ye Iron and Steel Plant) (Zaporozh'ye).
In water column cold natural gas is fed into the gas port and gas uptake. When it meets with premixed air and partial combustion takes place, a mixture of the products of combustion and unburned gas is formed. It is heated to the temperature of de-

18-3200

AUTHORS:

Dobrohotov, N. M., Koberza, I. I., Garchenko, V. T., and Trubinier, A. L.

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ASSOCIATION: Academy of Sciences of the USSR and Zaporozhstal' Plant (Akademiya Nauk SSSR i zavod "Zaporozhstal'")

Card 6/6

TRUBNIKOV, L.I.

Note on the theory of orographic lenticular clouds. Vest. Iosif.
univ. Ser. 3: Fiz., vypus. 16. No. 5: 7-56 S.-O '61.

(MIRA 14:10)

1. Kafedra fiziki atmosfery Leningradskogo universiteta.
(Leningrad)

ACCESSION NR: AR4023768

S/0274/64/000/001/A082/A082

SOURCE: RZh. Radiotekhnika i elekrosvyaz', Abs. 1A541

AUTHOR: Timokhin, L. A.; Trubinkov, V. R.; Kulabukhov, Yu. S.

TITLE: Recording system of a pulse height analyzer with ferrite core memory

CITED SOURCE: Tr. 5-y Nauchno-tekhn. konferentsii po yadern. radio-elektronike. T. 2. Ch. 2. M., Gosatomizdat, 1963, 47-52

TOPIC TAGS: pulse height analyzer, analyzer recorder, analyzer memory, ferrite core memory, current coincidence circuit, transformerless matrix drive

TRANSLATION: The memory of the described apparatus for the recording of a pulse-height analyzer signal employed a current coincidence system. To eliminate the dependence of the reading and writing cur-

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ACCESSION NR: AR4023768

rents on the information in the channel, a transformerless matrix drive is used (the generator currents are fed directly to the coordinate buses of the matrix). The coding system is binary-decimal; the address unit is made of vacuum tube flipflops. The address circuit makes it possible to scan the channels in the forward and backward directions. The data can be read out on an oscilloscope, on neon indicators, or on a number-printing mechanism. Systems for 128 and 256 channels with capacities 10^5 and 10^6 respectively have been developed. The block diagram of the recorder and the circuit of the matrix drive and other units are presented. Bibliography, 5 titles.

DATE ACQ: 03Mar64

ENCL: 00

SUB CODE: PH, SD

Card 2/2

OBLEUKHOVA, O., inzh.; VIPPER, A., kand.tekhn.nauk; PROTASOV, V., inzh.;
TRUBINSKAYA, R., inzh.

Effect of a centrifugal cleaning on the extraction of
additives from oils. Avt.transp. 38 no.8:20-22 Ag '60.
(MIRA 13:8)

(Automobiles--Engines--Oil filters)

OHELEUKHOVA, O.; TRUBINSKAYA, R.

Can corrosive wear of the SOS 6-6 bearing alloy be caused by motor
oils? Avt.transp. 37 no.3:24-25 Mr '59. (MIRA 12:4)
(Bearing metals--Corrosion)

L_20356-03 EIT(c)/ENT(m)/BDS/ES(s)-2 AFFTC/AFGC/SSD Pt-4/Pr-4

BL/ML/DJ

ACCESSION NR: AT3002011

S/2664/61/000/000/0340/0347

AUTHORS: Obleukhova, O. S.; Protasov, V. V.; Trubinskaya, R. A.

TITLE: The testing of oils with additives on engines and mechanisms, and practical experience therewith. Effect of engine-oil additives on the pitting of hydraulic valve lifters.

SOURCE: Prisadki k maslам i toplivam; trudy nauchno-tehnicheskogo soveshchaniya. Moscow, Gostoptekhizdat, 1961, 340-347.

TOPIC TAGS: lubricant, lubrication, additive, valve, lifter, valve lifter, hydraulic, pitting, oil, ZIL-110, ZIL-111, DF-11, SB-3, AzNII, TsLATIM-339, VNII NP-360, IP-22, PMS_{Va}, sulfonate, dialkyldithiophosphate, Zn, Ba, primary, P, octyl, alcohol, 2-ethylhexyl, isobutyl, Shell, Esso, Castrol.

ABSTRACT: The paper describes tests performed with ZIL-110 and ZIL-111 engines to determine the effect of oil additives on the pitting of hydraulic valve lifters. 24- and 50-hr tests were performed to obtain data comparable with tests of the same duration performed and reported in the USA. The tests were run at varying rpm's, with valve spring loads of 75 and 130 kg. The oils tested were industrial 50 and DS-8 without additives and with additives TsLATIM-339, VNII NP-360,

Card 1/3

L 20356-63

ACCESSION NR: AT3002011

IP-22, "PMS," and the Ba and Zn dialkyldithiophosphates DF-1 and DF-5 et al., including 30HD Shell, Esso, Castrol, and Wakefield CR-30. The tests showed that the pitting of valve lifters made of white iron actuated by a steel camshaft depends greatly on the quality of the oil employed. This is attributed to the contribution of the detergent components of the additives to the appearance of corrosion fatigue in the metal. The additive that is most effective in counteracting pitting of the valve lifters is DF-11, a Zn dithiophosphate prepared from primary octyl alcohol (2-ethylhexyl) mixed with isobutyl alcohol (Institut neftekhimicheskogo sinteza AN SSSR/Institute of Petrochemical Synthesis, AS, USSR). A 2% addition of this additive is introduced into the oil as referred to a 0.1% Zn and P content in the oil. Sulfonate and alkylphenolic additives must be introduced into the oil to obtain satisfactory detergent qualities. Satisfactory qualities of the oil relative to the overall requirements (detergent, antiwear, and anticorrosion properties) are obtained through the following additive composition: (a) 3% low-ash sulfonate AzNII with 2% DF-11; (b) 3% sulfonate additive SB-3 with 2% DF-11. The method of 24- and 50-hr engine tests permits the selection of optimal additive specimens that inhibit pitting on the valve lifters and affords a comparative evaluation of the quality of the metal that is to be employed in the making of the valve lifters. Orig. art. has 4 figures and 2 tables.

Card 2/3

L 20356-63

ACCESSION NR: AT3002011

ASSOCIATION: Moskovskiy avtozavod im. I. A. Likhacheva (Moscow Automobile Plant)

SUBMITTED: 00 DATE ACQ: 23Jan63 ENCL: 00

SUB CODE: FL, CH, EL NO REF SOV: 000 OTHER: 000

Card 3/3

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756810015-7

TUBINSKIY, V. I.

Dissertation defended for the degree of Candidate of Philological Sciences
at the Institute of the Russian Language

"Predicate Verbal Adverb in the Dialects of the Northwest."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756810015-7"

KITAYNIK, A.U.; LARIONOV, N.N., zhurnalista; BRATCHIKOV, B., zhurnalista;
BYKOV, V., zhurnalista; VOLKOV, Ye., zhurnalista; VOSKRESENSKIY, N.,
zhurnalista; GERVASH, A., zhurnalista; GORDIN, A., zhurnalista;
GILENKO, A., zhurnalista; DASHKOV, S., zhurnalista; DROBOTUSHENKO, A.,
zhurnalista; YERSHOV, N., zhurnalista; ZHULYABIN, A., zhurnalista;
KRASNOV, I., zhurnalista; LUCHINETSKIY, Ye., zhurnalista; LYKOV, M.,
zhurnalista; MEYSAK, N., zhurnalista; PADERIN, G., zhurnalista; PAL'M, A.,
zhurnalista; PONOMAREV, P., zhurnalista; RUBINA, M., zhurnalista; TAGIROV, T.,
zhurnalista; TIMOFEEV, B., zhurnalista; YANSHIN, V., zhurnalista;
TRUBITSIN, N.A., ctv.red.; OMBYSH-KUZNETSOV, S., red.izd-va; TOBUKH, A.,
tekhn.red.

[Novosibirsk; a collection] Novosibirsk; sbornik. Novosibirskoe knizh-
noe izd-vo, 1961. 180 p. (MIRA 15:5)

(Novosibirsk--History)

(Novosibirsk--Description)

SHAPOVAL, Aleksey Nikitich; TRUBITSINA, A.A., red.; ZOLOTAREVA, S.F.,
red.izd-va; SOLOV'YEVA, Ye.P., tekhn.red.

[Viliuiskii encephalomyelitis] Viliuiskii entsefalomielit.
IAkutsk, IAkutskoe knizhnoe izd-vo, 1959. 153 p.
(ENCEPHALOMYELITIS) (MIRA 14:4)

TRUBITSINA, Ye.; SHLYKOV, M.

The most important thing is confidence in man. Zhil.-kom. khoz. 12
no.10:22-23 Ø '62. (MIRA 16:2)

1. Nachal'nik Energosbyta Penzenskoy gorodskoy elektroseti (for
Trubitsina). 2. Inzinerer proizvodstvennoy sluzhby Penzenskoy
gorodskoy elektroseti (for Shlykov).
(Electric utilities)

TRUBITSKIY, G.

Semigraphical analysis in establishing technical norms. Sots.trud
4 no.7:98-103 J1 '60. (MIRA 13:8)
(Production standards)

TRUBITSKIY, G. F., CAND BIO SCI, "ACCUMULATION OF
the grasses the NUTRIENTS IN HERBAGE OF EAST-CARPATHIAN MOUNTAINS PAS-
TURE-LANDS." L'vov, 1960. (MIN OF HIGHER AND SEC SPEC
ED USSR, L'vov STATE UNIV IM IV. FRANKO). (KL, 3-61,
211).

TRUBITSKIY, G.F. [Trubyt's'kyi, H.F.]

Dynamics of the accumulation of nutritive substances in mountain
matgrass pastures of the Eastern Carpathians. Ukr.bot.zhur. 15
no.4:37-48 '58. (MIRA 12:5)

1. L'vovskiy pedagogicheskiy institut, kafedra botaniki.
(Carpathian Mountains--Pastures and meadows)
(Matgrass)

GAL'TSOV, A.D.; DENISYUK, I.N.; LEVANDOVSKIY, S.N.; LOSEV, A.G.; PEZIK, M.O.; PETROCHENKO, P.F.; SAVOS'KIN, N.M.; TRUBITSKIY, G.R.; KHISIN, R.I.; KHROMILIN, V.A.; ALEKSEYEV, S.S., retsenzent; GAL'PERIN, L.I., retsenzent; GRANOVSKIY, Ye.N., retsenzent; ZA-KHAROV, N.N., retsenzent; KVASHININ, S.A., retsenzent; KEREKESH, V.V., retsenzent; KOTENKO, I.N., retsenzent; LIVSHITS, I.M., retsenzent; LERNER, G.V., retsenzent; NEVSKIY, B.A., retsenzent; NOVIKOV, V.F., retsenzent; RAZAMAT, E.S., retsenzent; SERGEYEV, A.V., retsenzent; STEFANOV, V.P., retsenzent; TOLCHENOV, T.V., retsenzent; FEDOTOV, F.G., retsenzent; VOL'SKIY, V.S., red.; STRUZHESTRAKH, Ye.I., red.; USPENSKIY, Ya.K., red.; SEMENOVA, M.M., red.izd-va; MODEL', B.I., tekhn.red.

[Handbook for work-norm experts in machine manufacture] Spravochnik normirovshchika-mashinostroitelia v 4 tomakh. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry. Vol.1. [Fundamentals of technical normalization] Osnovy tekhnicheskogo normirovaniia. 1959. 676 p. (MIRA 12:12)

(Standardization)

TRUBITSKYI, G.F.

Susceptibility of rough-stalked meadow grass to damage by
nematodes. Zashch.rast.ot vred. i bol. 4 no.1:53 Ja-F '59.
(MIRA 12:2)
(Meadow grass--Diseases and pests) (Nematoda)

TRUBITSYN, A.G., vrach

Sycosis. Zdorov'e 5 no.4:31 Ap '59.

(MIRA 12:4)

(SKIN--DISEASES)

TRUBITSYN, A. M.

Category: USSR / Physical Chemistry - Crystals

B-5

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29771

Author : Trubitsyn A. M.

Inst : Tomsk Polytechnic Institute

Title : Electric Strength of Monocrystals of Solid Solutions of Alkali Halide Salts with Substituted Halogen

Orig Pub: Izv. Tomskogo politekhn. in-ta, 1956, 91, 119-124

Abstract: Determination of electric strength E, of monocrystals of solid solutions of the systems NaCl - NaBr, KCl - KBr and KI - KBr, over the entire range of composition changes. Dependence of E on composition is given by curves having a minimum in the region of equal molecular content of components, which is contrary to the theory of Froehlich (Froehlich H., Proc. Roy. Soc., 1939, A172, 94; 1941, A178, 493).

Card : 1/1

-50-

VOROB'YEV, Aleksandr Akimovich; TRUBITSYN, A.M., kand. tekhn.
nauk, red.

[Disruption of the electrical strength of dielectrics and
their breakdown] Narushenie elektricheskoi prochnosti
dielektrikov i ikh protsei. Tomsk, Izd-vo Tomskogo univ.,
1962. 108 p. (MIRA 18:5)

ZAKHAROV, Yu.A.; KABANOV, A.A.; TRUBITSYN, A.M.

Effect of a fixed electric field on the thermal decomposition
of silver oxalate. Izv.vys.ucheb.zav.; khim.i khim.tekh. 8
no.4:529-532 '65. (MIRA 18:11)

1. Tomskiy politekhnicheskiy institut imeni Kirova, kafedra
radiatsionnoy khimi.

PETYGIN, V.I.; TRUBITSYN, A.P.; YEVDOKINOV, V.G.

Use of a capacity pickup to measure the moisture content of loose materials. TSvet. met. 33 no.7:8-12 J1 '60. (MIRA 13:7)

1. Gintsvetmet.
(Granular materials) (Moisture--Measurement) (Transducers)

L 31311-66 (S111) /
ACC NR: A166425

(A,B) SOURCE CODE: UR/0346/66/000/001/0013/0020

AUTHOR: Lavrent'eva, T. V.; Sergeyev, V. A.; Trubitsyn, B. I.; Khizhinskaya, V. P.

ORG: All-Union Scientific Research Institute of Veterinary Virology and Microbiology
(Vsesoyuznyj nauchno-issledovatel'skiy institut veterinarnoy virusologii i
mikrobiologii)

TITLE: Reproduction of foot-and-mouth disease virus in a tissue culture of pig
embryo kidney

SOURCE: Veterinariya, no. 1, 1966, 18-20

TOPIC CODE: foot and mouth disease, virus, virology, vaccine

ABSTRACT: The effect of certain conditions on reproduction of the foot-and-mouth disease virus (Type O) in a culture of pig embryo kidney cells was studied. The strain used was obtained from cattle and adapted in 7-8 passages to the pig embryo kidney culture. It was found that reproduction of the virus in the culture did not depend on previous adsorption of the virus in the culture did not depend on previous adsorption of the virus to the cells. In cultivating the foot-and-mouth disease virus in this culture in one-liter flasks it is good to inoculate the culture simultaneously with a change of the medium (pH 7.6), introducing the virus in a dose of 10^{-2} - 10^3 TCD₅₀/ml. The infected cultures are incubated at 37° C for 18-20 hours. Cultivation of foot-and-mouth disease virus in this way was found promising for producing vaccine! Orig. art. has: 3 tables. [JPRS]

SUB CODE: 06 / SURM DATE: none / ORIG REF: 003 / OTH REF: 006

Card 1/1 10

UDC: 619.616.988.43-093.35

0915

05-98

TIRBITSYN, B.J.; SERGETEV, V.A.; KUZYAKIN, G.R.

Comparative study of the immunobiological properties of the
virus of foot-and-mouth disease. Veterinariia Akad. Nauk SSSR
1965.

I. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy
virusologii i mikrobiologii.

TRUBITSYN, B.I.; LAVROVA, T.S.; SERGEYEV, V.A.

Effect of the method for cultivating the virus of foot-and-mouth disease on the formation of negative colonies in tissue cultures. Veterinariia 41 no.11:11-15 N '64.

(MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy virusologii i mikrobiologii.

MERPert, L.O., inzh.; TRUBITSYN, I.M., inzh.

Possibilities for lowering costs of making reinforced concrete
construction elements. Transp.stroi. 10 no.6:32-35 Je '60.
(MIRA 13:7)

(Reinforced concrete)
(Construction industry--Costs)

TRUBITSYN, I.M., inzh.

[Ways for increasing the output and improving the quality
of conical reinforced concrete contact network supports]
Puti uvelichenija vypuska i povysheniia kachestva zhelezo-
betonnykh konicheskikh opor kontaktnoi seti. Moskva, Org-
transstroy, 1963. 8 p. (MIKA 17:7)

TRUBITSYN, I.M., inzh.; NOVIKOV, L.V., inzh.

Using linear elements in making segmental girders. Transp.
stroi. 11 no.1:24-26 Ja '61. (MIRA 14:1)
(Girders)

TRUBITSYN, I.M., inzh.

Dissemination of technical knowledge among construction workers
of the transportation industry. Transp. stroi. 8 no.3:27-28 Mr '58.
(MIRA 11:4)
(Building trades--Study and teaching)

~~TRUBITSYN, I.M.~~
TRUBITSYN, I.M., inzh.

Wall blocks made of highly porous clinker concrete. Transp.stroi.
7 no.8:8-10 Ag '57. (MIRA 10:12)
(Concrete blocks)

TRUBITSYN, I.M., inzh.; DORONIN, S.V., inzh.

Precast reinforced concrete composite roofs without attics.
Transp.stroi. 10 no.5:31-33 by '60. (MIEA 13:7)
(Roofs, Concrete)

GARBER, K.S., dotsent; NIKITIN, A.I.; LYAUDIS, B.V.; MALINOVSKIY,
E.N., kand. tekhn.nauk; BEL'SKIY, O.I.; VOLKOV, L.G.;
KUZNETSOV, M.P.; KUTSENKO, A.D., SOROKIN, A.A.; STAKHURSKIY,
A.D.; TRUBITSYN, L.M.; TRUSEYEV, A.I.; SHAFRAN, I.K., inzh.;
SHESTAK, P.I.; UL'YANOV, D.P.

Automatic control of converter smelting by means of compu' r8.
Stal' 23 no. 7:608-610 J1 '63. (MIRA 16:9)

1. Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz im. M.I.
Arsenicheva (for Garger). 2. Institut kibernetiki AN UkrSSR
(for Malinovskiy). 3. Zavod im. Dzerzhinskogo (for Shafran).

THUBITSYN, M.F.

Perforating gastric ulcer in a child. Khirurgiia 32 no.10:83
0 '56 (MIRA 12:7)

1. Iz Molotovskoy reyaonnoy bol'nitsy Kirovskoy oblasti.
(PEPTIC ULCER)

LIPKOVICH, Z.; ESTRIN, G.; MIROSHNICHENKO, D.; TRUBITSYN, N.;
STRELKOV, I., master; LARIONTSEV, A.; ROMANOVICH, K.

Experience of innovators and efficiency promoters. Stroitel'
(MIRA 15:11)
8 no.10:25-26 0 '62.

1. Predsedatel' komiteta professional'nogo soyuza rabochikh
stroitel'stva i promyshlennosti stroitel'nykh materialov
stroitel'nogo uchastka No.108 tresta Mosstroy No.18
(for Lipkovich).
(Building—Technological innovations)

TRUBITSYN, Nikolay Aleksayevich, inzh.; SAVELYKO, Vladislav Nikolayevich,
kand. tekhn. nauk; BIDULYA, Pavel Nikolayevich, doktor tekhn.
nauk; SAMOKHOTSKIY, A.I., inzh., red.; SHVETSOV, G.V., tekhn.
red.

[Hot crack resistance in carbon steel castings] Goriachaia treshchi-
nostoichivost' litci uglerodistoi stali. Moskva, Filial Vses.
in-ta nauchn. i tekhn. informatsii, 1958. 13 p. (Perevodoi nauchno-
tekhnicheskii i proizvodstvennyi opyt. Tema 1. No.M-58-207/4)
(MIRA 16:3)

(Steel castings--Defects) (Thermal stresses)

KOPEYKOVSKIY, V.M.; TRUBITSYN, N.V.

Storing sunflower seeds without access of air. Izv. vys. ucheb. zav.;
(MIRA 15:1)
pishch. tekhn. no.5:13-19 '61.

1. Krasnodarskiy institut pishchevoy promyshlennosti. Kafedra
tekhnologii zhirov. (Sunflower seed--Storage)

TRUBITSYN, N.V.; KOPEYKOVSKIY, V.M.

Effect of gas conditions on the microflora of sunflower seeds.
Izv.vys.ucheb.zav.; pishch.tekh. no.1:22-23 '63. (MIRA 16:3)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra
tekhnologii zhirov.
(Sunflower seed--Microbiology)

TRUBITSYN, N.V.; GARBUZOVA, G.I.; KOPEYKOVSKIY, V.M.

Specific gravity of sunflower seed. Izv.vys.ucheb.zav.; pishch.
tekhn. 1:156-158 '61. (MIRA 14:3)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra
tekhnologii zhirov.
(Sunflower seed)

TRUBITSYN, V.F.

Reinforced concrete crossties with an enlarged base. Transp. stroi.
15 no.5:51-53 My '65. (MJRA 18:7)

1. Zamestitel' nachal'nika Yugo-Zapadnoy dorogi.

ACC NR: AP6036965

(A, N)

SOURCE CODE: UR/0181/66/008/011/3241/3247

AUTHOR: Trubitsyn, V. P.

ORG: Institute of Earth Physics im. O. Yu. Shmidt, AN SSSR, Moscow (Institut fiziki zemli AN SSSR)

TITLE: Equation of state of solid helium at high pressures

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3241-3247

TOPIC TAGS: equation of state, helium, high pressure research

ABSTRACT: The energy $\epsilon(v, T)$ of crystalline helium is calculated theoretically for the entire pressure range 30 atm $< p < 10^{14}$ atm at various temperatures. The energy of the crystal is obtained by using the Hartree-Fock approximation and the perturbation theory. The following equation is derived for the energy of solid helium:

$$\epsilon(v) = \epsilon_{H-F} + \epsilon_c + \epsilon_{z.v.} + f = 9.113v^{-1/2} - 7.638v^{-1/2} + 2.31 + \\ + 0.016\ln v + 0.08v^{-1/2}, \quad 10^5 < p < 10^{14} \text{ atm}$$

where ϵ_{H-F} is the energy of the crystal given by the Hartree-Fock approximation, ϵ_c is the correlation energy, $\epsilon_{z.v.}$ is the energy of zero vibrations of the lattice points, and v is the atomic volume. The characteristic temperature $\Theta(v)$, fusion curve $T(p)$ and Grüneisen parameter $\gamma(p)$ are calculated. The author takes this oppor-

Card 1/2

ACC NR: AP6036965

tunity to thank V. N. Zharkov, who proposed the topic of this work and evaluated its results. Orig. art. has: 3 figures and 20 formulas.

SUB CODE: 20/ SUBM DATE: 11Apr66/ ORIG REF: 009/ OTH REF: 013

Card 2/2

YEGOROV, N.N.; KALININ, V.A.; TRUBITSYN, V.P.

Absorption of Rayleigh waves in a layer on half-space. Trudy
Inst. fiz. Zem. no.20:57-66 '62. (MIRA 15:8)
(Seismology)

L 27305-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6008981

(A)

SOURCE CODE: UR/0190/65/007/011/1968/1972

39
34

AUTHORS: Trubitsyna, S. N.; Margaritova, M. F.; Medvedev, S. S.

B

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov
(Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Investigation of polymerization initiation by the system benzoyl peroxide-alkylpyridinium in alkali media

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 11, 1965, 1968-1972

TOPIC TAGS: radical polymerization, emulsion polymerization, chloroprene, benzoyl peroxide, monomer, vinyl, chloroprene, isoprene, butadiene, polymer

ABSTRACT: This investigation was conducted to extend earlier published work by M. F. Margaritova and S. D. Yevstratova (Vysokomolek. soyed., 3, 398, 1961) and to study the role played by cetylpyridinium chloride and cetylpyridinium bromide in initiation of polymerization. The study was carried out by observing the rate of benzoyl peroxide decomposition in the presence of alkylpyridiniums in benzene-water emulsions at 20--22°C. The experimental results are presented in graphs and tables. The polymerization of a number of vinyl and diene monomers (methyl-

Card 1/3

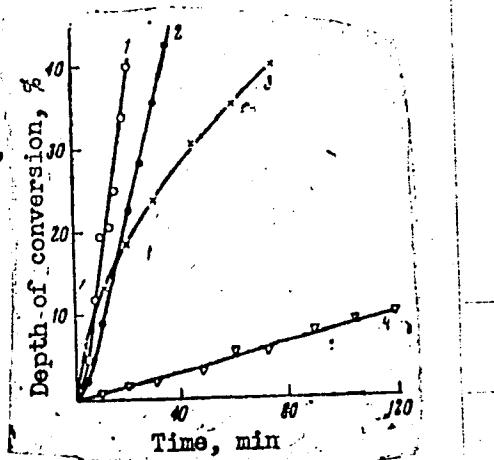
UDC: 66.095.26

L 27305-66

ACC NR: AP6008981

(5)
methacrylate, 1--styrene, 2--chloroprene, 3--isoprene, 4--butadiene) in the presence of benzoyl peroxide--cetylpyridinium chloride was also studied. It was found that acrylonitrile and methylacrylate did not polymerize under these conditions. The experimental results are presented graphically (see Fig. 1).

Fig. 1. Polymerization of monomers in the presence of the system--benzoyl peroxide-cetylpyridinium chloride: benzoyl peroxide = 0.745 mole/liter, cetylpyridinium chloride = 2%, pH ~ 10.3, T = 20°C. 1--chloroprene, 2--methyl-methacrylate, 3--styrene, 4--isoprene.



Card 2/3

L 27305-66

ACC NR: AP6008981

The order of the initiation reaction for each component and the activation energy for the reaction were determined. The inhibiting effect of benzoic acid on the decomposition of benzoyl peroxide and the polymerization of the monomers was established. It is suggested that a chemical interaction takes place between benzoyl peroxide and acryl pyridiniums in alkali media. Orig. art. has: 1 table and 4 graphs.

SUB CODE: 11/ SUBM DATE: 26Dec64/ ORIG REF: 003/ OTH REF: 001

Card 3/3 J.O

L 27306-66 EWT(m)/EWP(j)/T IJP(c) WW/RM
ACC NR: AP6008982 (Pr) SOURCE CODE: UR/0190/65/007/011/1973/1977

AUTHORS: Trubitsyna, S. N.; Margaritova, M. F.; Medvedev, S. S.

ORG: Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Moskovskiy Institut tonkoy khimicheskoy tekhnologii)

TITLE: Emulsion polymerization of methylmethacrylate in the presence of benzoyl peroxide at low temperatures

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 11, 1965, 1973-1977

TOPIC TAGS: emulsion polymerization, polymerization kinetics, methylmethacrylate

ABSTRACT: This investigation was performed to extend an earlier work of M. F. Margaritova and S. D. Yevstratova (Vysokomolek. soyed., 3, 390, 1961). It was desired to determine the effect of initiator and emulsifier system concentration, pH of the medium, and the temperature on the emulsion polymerization of methylmethacrylate. The initiator systems used were benzoyl peroxide--dimethyl aniline and benzoyl peroxide--cetylpyridinium chloride. The latter also served as the emulsifying agent. The experimental results are presented in graphs and tables (see Fig. 1). Rate expressions for the polymerization reactions have been derived. A comparison of the molecular weights of the polymers obtained from the two different initiating systems showed that dimethylaniline decreases the molecular weight by two orders of magnitude. It is concluded that the decrease in molecular weight is caused by the inhibiting action of

UDC: 66.095.26+678.744

Card 1/2

L 27306-66

ACC NR: AP6008982

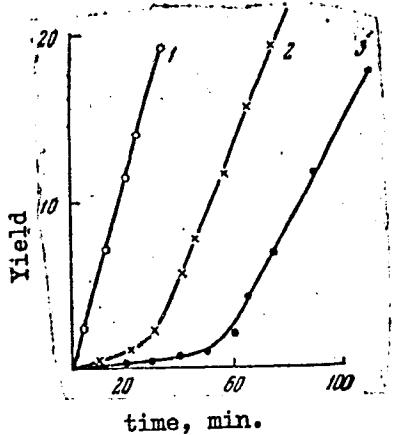


Fig. 1. Polymerization of methylmethacrylate under the influence of the initiating system benzoyl peroxide--cetylpyridinium chloride for different monomer concentrations. Benzoyl peroxide concentration = cetylpyridinium chloride concentration = 0.0745 mole/liter, T = 20°C, pH ~ 10.3. Ratio of organic to aqueous phase: 1 - 1:1; 2 - 1:2; 3 - 1:4.

the reaction products resulting from the reaction of benzoyl peroxide and dimethyl-aniline (chiefly, monomethyl aniline). Orig. art. has: 1 table and 5 graphs.

SUB CODE: 07, 11/SUBM DATE: 26Dec64/ ORIG REF: 006/ OTH REF: 002

Card 2/2 ✓

TRUBITSIN, A.

Avometer and universal voltmeter for radio amateurs. V pom.
radioliub. no.5:31-42 '58. (MIRA 13:7)
(Electric meters)

TRUBITSKIY, G.F.

Iron accumulation in some water plants and its protective role.
Biul. Glav. bot. sada no.45:104-106 '62. (MIRA 16:2)

1. L'vovskiy gosudarstvennyy universitet imeni Iv. Franko.
(Plants, Effect of iron on)
(Freshwater flora)

S/128/61/000/002/003/009
A054/A133

AUTHOR: Trubitsyn, N.A.

TITLE: The effect of deoxidation and the solidification conditions of steel
in the mold on the formation of hot cracks

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1961, 17 - 19

TEXT: The presence of impurities, non-metallic inclusions, their shape and distribution in the liquid metal affect the mechanical properties of steel in the temperature range where hot cracks are formed. Non-metallic inclusions develop in the form of a skin, chains or separate globules. The steels in which inclusions appear as separate globules, have better mechanical properties and are more crack-resistant than those in which impurities appear in the form of skins or coherent chains, which surround the grains of the crystal structure with a kind of coat. It is possible to control the shape of inclusions, partly by modifying the chemical composition of the steel and partly by means of a suitable deoxidation method. At the TsNIITMASH, P.N. Buduli, Doctor of Technical Sciences, carried out tests to determine the mechanisms of crack-formation, by studying the effect of various deoxidants on the crack-resistance of steel. The device used in the

Card 1/3

S/128/61/000/002/003/009
A054/A133

The effect of deoxidation and the solidification....

tests and recording this property of steel is based on the change of the free linear shrinkage or the forces arising when delaying shrinkage into corresponding changes of potential differences. The test specimen was cast in a mold forming a part of the electric measuring device. The metal used in the test was produced in a 50-kg induction furnace. The molding mixture had the following parameter: 0.5 kg/cm² green strength, 60 cm/min gas permeability, 5% humidity. It was found that there is no great difference in crack-resistance when deoxidizing with silicon or manganese. If, however, deoxidizing 40J (40L) carbon steel simultaneously with silicon and manganese and increasing the amount of deoxidants from 0.05 to 0.7%, crack-resistance could be raised from 25 kg to 50 kg. The reason is that by deoxidizing with manganese-silicate the size of deoxidation products is several tens of times larger than when manganese or silicon is used alone for this purpose and in this way the liquid steel can be purified from the deoxidation products more quickly and thoroughly. Crack-resistance also depends on the carbon and aluminum content of steel. The relationship between the changes in crack-resistance and the aluminum content of steel are shown. The dependence of crack-resistance on the aluminum content can be explained as follows: when deoxidation is carried out without aluminum, by adding ferro-silicon and ferro-manganese, non-metallic inclusions are formed, which contain ferro and manganese

Card 2/3

S/128/61/000/002/003/009

A054/A133

The effect of deoxidation and the solidification....

sulfides, silicium and manganese oxides, but also iron oxides. The latter reduce the solubility of non-metallic inclusions. The non-soluble oxy-sulfides coagulate and assume a globular form, thereby increasing the crack-resistance. The critical amount of aluminum, resulting in a minimum of crack-resistance, varies as a function of the carbon content between 0.04 - 0.055%. When adding 0.09 - 0.125% aluminum, the crack-resistance first decreases but later on increases. This is explained by the fact that when more aluminum is added to the steel, not only the Al_2O_3 content of non-metallic inclusions increases but also their Al_2S_3 content, which to some degree adsorbs Al_2O_3 . The amount of Al_2O_3 which adversely affects the crack-resistance of carbon steel will consequently decrease. Titanium has a similar effect on the crack-resistance of steel (tested on the 40L grade) as aluminum, but to a higher degree (about 50%). The greater effect of Ti as de-oxidant on crack-resistance is due to its activity with regard to the shape of non-metallic inclusions and to the behavior of sulfide inclusions. When inclusions are globular and arranged irregularly in the crystallizing metal, the stresses forming during shrinkage are spread over a larger sector of the casting, thereby increasing the crack-resistance of the steel. There are 6 figures, 4 tables and 6 Soviet-bloc references.

Card 3/3

HANSON, R. A.

"Linear Strainage of Steel during Casting in the Mold and the Influence
of Hot Cracks in the Castings"

report presented at the 7th Conference on the Interpretation of the Casting of Iron
and the Casting, sponsored by the Inst. of Mechanical Engineering, Inst. of
Mech., 25-26 January 1961.

ALEKSANDROV, R.G.; BARBASHINA, Ye.G.; BAS'KO, K.P.; VARTAN'YAN, A.S.; VASILEV-SKIY, P.F.; GLAGOLEVA, L.A.; DUBININ, N.P., prof., doktor tekhn. nauk; KONSTANTINOV, L.S.; KOROTKOV, A.I.; LESNICHENKO, V.L.; PANFILOV, Ye.A.; TRUBITSYN, N.A.; TUCHKEVICH, N.M.; FADKEEV, A.D.; FOKIN, G.F.; MARTENS, S.L., inzh., red.; SOKOLOVA, T.F., tekhn. red.

[Steel casting; foundrymen's handbook] Stal'noe lit'e; spravochnik dlja masterov liteinogo preizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 887 p. (MIRA 14:8)
(Founding)

1 RUHITSY R, 16, 17

PHASE 1 BOOK EXTRICATION

307/4.4.3

Sevchenko, po teorii litoplyu protsessov, M
"Perevody protsessov v sverkhkriticheskoye svershcheniye" (Casting Processes in
Metallic Transitions of the Third Conference on the Theory of Casting Processes),
Kishinev, M. SSSR, 1960. 201 p. Errata slip included. 1000 copies printed.

Sponsoring Agency: Akademicheskaya SSSR. Institut zashchitnye i poslovye pr
tehnologicheskikh mashinostroyenii.
Author: D.B. Gul'yayev, Doctor of Technical Sciences, Professor; Dr. of Publishing
House: V.S. Rebschuk; Tech. Ed.: T.V. Polyakova.

PURPOSE: This collection of articles is intended for scientific workers, engineers,
technicians of scientific research institutes and industrial plants, and for
faculty members of schools of higher education.

CONTENTS: The collection contains technical papers presented at the Third Conference
on the Theory of Casting Processes, organized by Litprom Metallurgicheskogo pro
tektorskogo nauchno-tekhnicheskogo instituta zashchitnykh i poslovych pr
tsentral'nogo nauchno-tekhnicheskogo in-ta Akademii Nauk SSSR (Casting Section
of Metalurgy, Academy of Sciences USSR) and by Institut metallicheskikh issledovanii
of SSSR (Institute of Metallurgy, Acad. A.A. Bogolyubov, Academy of Sciences USSR).
The most serious defects in castings, ingots, and welds as a result of mea
nures are reviewed. Factors contributing to the formation of shrinkage
cavities, porosity, cracks, fissures, distortion, and internal stresses are
analyzed along with measures taken to prevent and remedy them. The hydro-
statics of molten metals and the process of solidification of metals are dis
cussed. Also presented are resolutions adopted at the Conference with regard
to the problem of shrinkage in metals. No personalitites are mentioned. Most
papers are accompanied by bibliographic references, the majority of which are
Soviet.

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Card 46

Fr²ct 15ya, n. 7

PAGE I BOOK EXPOSITION Sov/4199

Leningrad. Politicheskii chemicheskiy institut
Sovremennye dostizheniya literaturoproizvodstva: trudy
Mezhdunarodnoy nauchno-tehnicheskoy konferentsii (Recent
Achievements in Founding: Transactions of the Scientific
and Technical Conference of Schools of Higher Education)
Moscow, Nauksgiz, 1970. 336 p. Karta slip inserted.

Resp. Ed.: Yu. A. Nevezin'. Doctor of Technical Sciences,
Professor; Eds.: N. G. Dzhuravich, Doctor of Technical
Sciences; Professor, and E. P. Lopatin, Doctor of Technical
Sciences, Professor, and K. P. Lebed', Doctor of Technical
Sciences, Professor, and V. P. Lopatin, Doctor of Technical
Sciences, Professor, Managing
Department Manager; Tr. N. F. Naumov, Engineer; Tech. Eds.:
Ye. A. Ruzgonchikova, and L. V. Sosulinina.

Purpose: This book is intended for the technical personnel
of foundries. It may be used by students of the field.

Contents: This collection of articles discusses problems in
founding processes. Individual articles treat the melting
of metals and their alloys, mechanization and automation
of casting processes, aspects of the manufacture of steel,
cast iron, and nonferrous metal castings. No personalities
are mentioned. References accompany individual articles.

Recent Achievements in Founding (Cont.)

Sov/4199

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Card 7/9

V. SILEVSKIY, P.F.; TRUBITSYI, N.A.; RALEV, A.D.

Mechanization and automation in factories of the automobile and
tractor industry in the U.S.S.R. and Great Britain. Biul.tek.-ekor.
inform. no. 30-83 '59. (MIA. 1017)

(United States--Automobile Industry)
(Great Britain--Automobile Industry)

TRUBITSYN, N.A., kand.tekhn.nauk

Effect of certain structural characteristics of shaped steel
castings on the formation of hot cracks. [Trudy] TSNIITMASH 97:
115-126 '60. (MIRA 13:8)

(Foundry--Details)
(Foundries--Quality control)

TRUBITSYN, N.A.

Mechanism of the formation of hot cracks in steel castings. Lit.
(MIRA 15:4)
proizv. no.4:33-34 Ap '62.
(Steel castings--Defects) (Thermal stresses)

TRUBITSYN, N.A.

Effect of retarding linear shrinkage on the crack-resistance of
steel castings. Lit. proizv. no.4:34-37 Ap '62. (MIRA 15:4)
(Steel castings--Defects)

TRUBITSYN, N.A.

Effect of deoxidation and the conditions of steel solidification
in the mold on the formation of hot cracks in castings. Lit.
proizv. no. 2:17-19 F '61. (MIRA 14:4)
(Steel castings—Defects)

L 15215-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b)/EWA(h) JD

ACC NR: AP6002906

SOURCE CODE: UR/0286/65/000/024/0072/0072

INVENTOR: Mirkin, I. L.; Trusov, L. P.; Dubrovskaya, Ye. F.;
Vasilevskiy, P. F.; Trubitsyn, N. A.; Yarovinskiy, L. M.

ORG: none

H.55 ft
TITLE: Heat-resistant steel. Class 40, No. 177077 [announced by
the Central Scientific-Research Institute of Technology and Machine
Building (Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii
i mashinostroyeniya)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 72

TOPIC TAGS: steel, low alloy steel, heat resistant steel, chromium
containing steel, molybdenum containing steel, nickel containing steel,
vanadium containing steel, niobium containing steel

ABSTRACT: This Author Certificate introduces a heat-resistant steel
containing chromium, molybdenum, nickel, vanadium, and niobium. To
improve the heat resistance, the content of alloying elements is set
as follows: 0.13—0.18% C, 1.8—2.3% Cr, 1.2—1.5% Mo, 0.55—0.70% V,
0.9—1.1% Ni, 0.08—0.15% Nb, and 0.005% B. [ND]

SUB CODE: 11/ SUBM DATE: 11Apr64/ ATD PRESS: 4191

UDC: 669.15'26'28'24'292—194

TS
Card 1/1

SHCHERBAKOV, V.G.; TRUBITSYN, N.V.

Sorption of carbon dioxide by sunflower seeds. Izv.vys.ucheb.zav.;
pishch.tekh. no.4:13-18 '60. (MIRA 13:11)

1. Krasnodarskiy institut pishchevoy promyshlennosti. Kafedra tekhnologii zhirodobivaniya.
(Sunflower seeds) (Carbon dioxide)

KOPEYKOVSKIY, V.M.; TRUBITSYN, N.V.

Respiratory gas exchange of sunflower seeds in storage without admission of air. Izv.vys.ucheb.zav.; pishch. tekhn. no.6:19-22 '61. (MIRA 15:2)

1. Krasnodarskiy institut pishchevoy promyshlennosti, kafedra tekhnologii zhirov.

(Sunflower seed--Storage)

TRUBITSYN, N.V.

Device for determining carbon dioxide. Izv. vys. ucheb. zev.;
pishch. tekhn. no.3:158-160 '60. (MIRA 14:8)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra
zhirodobyvaniya.
(Carbon dioxide)
(Chemical engineering—Equipment and supplies)

TRUBITSYN, N.V., inzh.

Apparatus for the semimicroanalysis of gases. Masl.-zhir.prom. 27
no. 5:39-40 My '61. (MIRA 14:5)

1. Krasnodarskiy institut pishchevoy promyshlennosti.
(Gases—Analysis)

SHCHERBAKOV, V.G.; TRUBITSYN, N.V.

Effect of carbon dioxide on the intensity of sunflower seed respiration.
Izv. vys. ucheb. zav.; pishch. tekhn. no. 2:33-36 '61. (MIRA 14:5)

1. Krasnodarskiy institut pishchevoy promyshlennosti. Kafedra
tekhnologii zhirov.
(Sunflower seed) (Carbon dioxide)

TRUBITSYN, N.V., aspirant

Airtight storage of sunflower seed with a high oil content. Soob.
1 ref. VNIIZ no.4:31-35 '61. (MIRA 16:5)

1. Krasnodarskiy institut pishchevoy promyshlennosti.
(Sunflower seed--Storage)

KOPEYKOVSKY, V.M.; TRUBITSYN, N.V.

Effect of the air composition in the interseed space on the respiratory gas exchange and dry substance losses in sunflower seeds. Blokhim. zер. i khlebopech. no.7;228-232 '64.
(MERA 17.9)

1. Kremnodar'skij nauchno-pis'mennyj promstlennost'.

24(8)

PAGE I BOOK EXPLOITATION Sov/2117

Sovremennye po eksperimental'noy tekhnike i metoda vysokotemperaturnykh issledovaniy, 1956

Eksperimental'naya tekhnika i metody issledovaniya pri vysokikh temperaturakh; trudy soveshchaniya "Eksperimental'nye tekhnicheskie i metody of investigation na vysokikh temperaturakh; Trasakonf'ferentsiya po issledovaniyu i metodam issledovaniya vysokikh temperatur" na konferentsii po issledovaniyu i metodam issledovaniya vysokikh temperaturakh

Methods of Investigation at High Temperatures; Transactions of the Conference on Experimental Techniques and Methods of Investigation at High Temperatures) Moscow, Akademiya Nauk SSSR, 1959. 789 p.

Institut metallofiziki. Komisija po fiziko-khimicheskim obozrenijam proizvodstva stali. Komisija po fiziko-

Sciences; Ed.: A.M. Smarin, Corresponding Member, USSR Academy of

Sciences; Ed. of Publishing House: A.I. Bankovitser. PURPOSE: This book is intended for metallurgists and metallurgical engineers.

COVERAGE: This collection of scientific papers is divided into six parts:

- 1) thermodynamic activity and kinetics of high-temperature processes
- 2) constitution diagrams and kinetics of high-temperature of liquid metals and slags
- 3) physical properties of pure metals
- 4) new analytical methods and properties of pure metals
- 5) pyrometry, and
- 6) general questions. For more specific coverage, see Table of Contents.

Shashkov, Yu.M. Method of Measuring Electrical Conductivity of Molten Slags 306

Tikhtin, Yu.P. and O.A. Yoslin. Measurement of Surface Charge Density of Liquid Metal in Contact With Slag 306

Mekhendri, Yu.A. and A.M. Smarin. U-Shaped Test Specimen for Determining Fluidity of Alloys 313

Olsabovich, M.O. and Yu.A. Mekhendri. Solidification and Related Phenomena as Functions of Physicochemical Constants of Alloys 318

Sidulya, P.N. and V.A. Trubil'syn. Measurement of Linear Shrinkage and Resistance to Hot-Crack Formation in Steel 351

Averantsev. An instrument was developed for determining free linear shrinkage, hindered (or retarded) shrinkage, or the forces developing during hindered shrinkage, of the metal to the formation of hot cracks. By means of composition (about 0.2 percent C) exhibits maximum resistance to the formation of hot cracks. This resistance falls sharply both with a decrease and an increase in carbon content. But with an increase in carbon the resistance falls until a content of 0.5 percent C has been reached; with again. The effect of manganese content and tensile temperature on hot-crack formation were also investigated.

Pronov, A.P. Investigation of the Properties of Steel in the Liquid State and at the Temperature of Crystallization 367

Bratchikov, S.O. and V.Y. Mikhaylov. Methods of Determining the Heat of Formation of Slag and the Heat of Evaporation of Combined Matter in Iron Ores 368

Card 14/32

397

11

TRUBITSYN, Sergey (Moskva)

Cone-headed grasshopper. IUn. nat. no.2:36 F '61. (MIRA 14:3)
(Locusts)

KARNAUKHOV, Mikhail Nikolayevich, dotsent; TRUBITSYN, V.A., red.; ZAYNUL-LINA, G.Z., tekhn.

[Bashkir kumiss and kumiss therapy] Bashkirskii kumys i kumysolechenie. Izd.2., dop. i perer. Ufa, Bashkirskoe knizhnoe izd-vo, 1961. 200 p. (MIRA 14:11)

1. Bashkirskiy meditsinskiy institut.
(KUMISS)

TRUBITSYN, V.F., inzh. (Kiyev)

Electric insulation of rail circuits on reinforced concrete
ties. Put' i put. khoz. 9 no.7:11-12 '65. (MIRA 18:10)

i. Zamestitel' nachal'nika Yugo-Zapadnoy dorogi.

TRUBITSYN, V.F., inzh. (Kiyev)

Various types of reinforced concrete ties on the Southwestern Railroad. Put' i put.khoz. 9 no. 5430.33 '65.

1. Zamestitel' nachal'nika Yugo-Zapadnoy drogi. (MIRA 18:5)

S/020/62/142/003/013/027
B112/B102

AUTHORS: Trubitsyn, V. P., and Ulinich, F. R.

TITLE: Transition to the metallic state of solid helium under high pressure

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 3, 1962, 578-580

TEXT: In order to find the energy states of high symmetry of a helium crystal, perturbation theory is applied to the Hartree - Fock equation which reads in the given case:

$$\hat{\mathcal{H}}_1 \psi_k(r_1) + \frac{4a}{\pi} \int \frac{\rho_1(r_2)}{|r_1 - r_2|} d\tau_2 \cdot \psi_k(r_1) - \frac{2a}{\pi} \int \frac{\rho_2(r_1, r_2)}{|r_1 - r_2|} \psi_k(r_2) d\tau_2 = e(k) \psi_k(r_1). \quad (1)$$

where

$$\begin{aligned} -\hat{\mathcal{H}}_1 &= \Delta_1 + \frac{4a}{\pi} V(r_1), \quad V(r_1) = \sum_n^N \frac{1}{|r_1 - R_n|}, \quad \rho_1(r_2) = \sum_{k'}^N |\psi_{k'}(r_2)|^2, \\ e(k) &= \frac{2a^2}{\pi^2} E(k), \quad \rho_2(r_1, r_2) = \sum_{k'}^N \bar{\psi}_{k'}(r_2) \psi_{k'}(r_1); \end{aligned} \quad (2)$$

Card 1/2

Transition to the metallic state...

S/020/62/142/003/013/027
B112/B102

Equ. 1 is solved for the ground state and for the weakly excited state. .
The pressure p at the transition point was found to be $3 \cdot 10^7$ atm.
B. I. Davydov is thanked for assistance. There are 3 references:
1 Soviet and 2 non-Soviet. The two references to English-language
publications read as follows: L. P. Bouckart, R. Smoluchowski, E. Wigner,
Phys. Rev., 50, 58 (1936), C. A. Seldam, Proc. Phys. Soc., Sect. A, 70,
p. 2, 97 (1957).

ASSOCIATION: Institut fiziki Zemli im. O. Yu. Shmidta Akademii nauk SSSR
(Institute of Physics of the Earth imeni O. Yu. Shmidt of the
Academy of Sciences USSR)

PRESENTED: October 3, 1961, by M. A. Leontovich, Academician

SUBMITTED: September 28, 1961

Card 2/2

L 8970-66

EWT(1)/EWT(m)/EWA(d)/EWP(t)/EWP(b) IIP(c) JD/JW
ACC NR: AP5027417 SOURCE CODE: UR/0181/65/007/011/3363/3371
44, 55

AUTHOR: Trubitsyn, V. P.

ORG: Institute of Physics of the Earth AN SSSR im. O. Yu. Schmidt, Moscow (Institut
fiziki Zemli AN SSSR)

TITLE: Equation of state for solid hydrogen

SOURCE: Fizika tverdogo tela, v. 7, no.11, 1965, 3363-3371

TOPIC TAGS: hydrogen, theoretic physics, low temperature effect, atomic theory,
crystal theory, crystal lattice

ABSTRACT: The energy and pressure of the spinning modification of hydrogen are calculated at the absolute zero of temperature with regard to the zero-point vibrations of the molecules. The Debye temperature and thermal pressure are also calculated. The work is based on a previous paper (V. P. Trubitsyn, FTT, 7, 3443, 1965) where it was shown that the energy of interaction of two atoms of hydrogen may be conveniently expressed as the sum of the energies of the Heitler-London and van der Waals interactions. Approximate formulas are derived for the energy of interaction of two rotating hydrogen molecules and for the total energy of interaction. Equations are then found for computing the energy and pressure of a hydrogen crystal at $T = 0$. The formula for the zero-point energy is based on the theory of harmonic vibrations at the crystal

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L 8970-66

ACC NR: AP5027417

lattice nodes. This formula may be used only for volumes of less than 90 atomic units per atom. For larger volumes, the zero-point energy must be calculated from the Schrödinger equation for the lattice. It is found that the energy for a closely packed hexagonal lattice with restricted molecular rotation is somewhat lower than that of a face-centered lattice with rotating molecules due to minimization with respect to the elongation parameter of the lattice. However, in this case the zero-point energy of the restricted rotations increases by nearly the same amount so that the energies for both types of lattice are close. The molecular phase of crystalline hydrogen is stable at pressures up to a few million atmospheres where a transition to the metal phase takes place. A formula is given for pressure (in atmospheres) as a function of temperature (in °K) and density (in g/cm⁻³). Orig. art. has: 3 figures, 31 formulas.

SUB CODE: 20/

SUBM DATE: 30Mar65/

ORIG REF: 005/

OTH REF: 011

OC

Card 2/2

L 9574-66

ACC NR: AP5027442

EWT(1)/EWT(m)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) IJP(c) JD/HW/GG
SOURCE CODE: UR/0181/65/007/011/3443/3445

AUTHOR: Trubitsyn, V. P.

ORG: Institute of Physics of the Earth im. O. Yu. Schmidt AN SSSR, Moscow (Institut
fiziki Zemli AN SSSR)

65

63

B

TITLE: Van der Waals forces at high pressures

SOURCE: Fizika tverdogo tela, v. 7, no. 11, 1965, 3443-3445

TOPIC TAGS: hydrogen, crystal theory, theoretic physics, Van der Waals force,
pressure effect

ABSTRACT: Van der Waals attraction between two hydrogen atoms is considered. The region $3 < R < 10$ was studied since the energy of interaction for hydrogen atoms is known for higher and lower R . The curve for $\ln|E_s(R)|$ can be made to coincide with the exact values for E_s at both high and low R by an 0.04 atomic unit parallel translation. The curve for $E_a(R)$ must be reduced by 15% for a similar effect. It was found that ΔE_s and ΔE_a first increase due to the contribution of multipole interactions in the second approximation, and then fall sharply thanks to the compensating contribution in higher approximations when R is reduced below 3, which corresponds to

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L 9524-66

ACC NR: AP5027442

a pressure of more than 10^7 atmospheres in the hydrogen crystal. The results are
compared with previous work. Orig. art. has: 2 figures, 3 formulas.

SUB CODE: 20/ SUBM DATE: 30Mar65/ ORIG REF: 002/ OTH REF: 005

bek
Card 2/2

KALININ, V.A.; TRUBITSYN, V.P.

Attenuation of surface waves in low-loss media. Izv.AN SSSR.
Ser.geofiz. no.12;1786-1794 '62. (MIRA 16:2)

1. Institut fiziki Zemli AN SSSR.
(Seismic waves)

TRUBITSYN, V.P.

Equation of state for MgO crystals. Zhur. eksp. i teor. fiz. 34
no.1:221-222 Ja '58. (MIRA 11:5)

1. Institut fiziki Zemli Akademii nauk SSSR.
(Magnesia) (Crystallography, Mathematical)

TRUBITSYN, V. P.

Equation of state for metals based on the statistical method. *Fiz.*
tver. tela 2 no.5:898-902 My '60. (MIRA 13:10)

1. Institut fiziki Zemli AN SSSR.
(Metals) (Equation of state)

PLACE 1 FOR EXPLANATION

SER/3400

Akademy nauk SSSR. Institut fiziki Zemli

Voprosy geotektonicheskoy seismologii i fiziki svyazey mezhdu problemami v teorii
i prakticheskoyi primeniteliyu seismologicheskikh metodov v issledovanii zemly (Series: Itog, no. 11 (1971)) Izd. Akad. Nauk SSSR, 1972. 172 p.

Sponsoring Agency: Akademy nauk SSSR. Institut fiziki Zemli Leningrad, R.S.F.S.R.

Prof. V.A. Moshul'tz, Doctor of Technical Sciences; Ed. of Publishing House:
V.A. Kulinich, Tech. Ed.; B.G. Tikhonova.NOTE: This collection of articles is intended for meteorphysicists, geophysicists,
and seismologists.CONTENTS: This issue of the Transactions of the Institute of Physics of the Earth
of the USSR contains articles on theoretical problems in seismology and on
recent investigations in the field of earthquake mechanics. Four out of fourteen
articles in the collection have been abstracted. References accompany individual
articles.

Lopatin, Yu. A. Best Transport by Eruptions in the Earth's Mantle

Nauk. Trudy. Problemy Interpretatsii Principal'nykh Irregularitetov

v Gravitsionnom Polye Zemli

The author discusses the basic deviations of the earth's gravitational field
from the normal values, and reports on the calculation of the
density of the equivalent layer made by the well-known formulae.
Formulas in order to evaluate the magnitude of the deviations made
to point out that similar calculations made by K. Matsuura and
in Japan in 1953 [ref. cited] are not entirely reliable since they
are based on grid atlases obtained by L. Gans to 1948 [ref. cited].
The present article gives values of equivalent layer density which
are empirically 10% of the maximum value. The errors in gravitational
field models, several theories as to the normal form and deviations
in the same are advanced. The author concludes that uneven distribution
reflective elements in the earth, causing temperature variations in
solid mantle, determine mass distribution, and other factors can
cause of extensive perturbations in the gravitational field.Vorob'ev, V. M. Evolution of Solid Sulfur to the Metallic Phase
under High Pressures

Nauk. Trudy. Novye Funktsional'nye Metody v Teorii Ideala

Kineticheskoy Dinamiky

Vorob'ev, V. M. and O.I. Pavlenko. Generalization of Data on the

Mechanics of Deformations

A method for relating the characteristics of observations to some
mechanical parameters of the mechanics of earthquakes is given.
This was made by means of systems of observations for an entire chain
between Tver'-Obninsk, the Caucasus, and for the region around
the northern part of the Volgograd-Baltian mountain range (numerical).
The author describes the method described in connection with the observed
characteristics of the Volgograd-Baltian mountain range (numerical).
He notes that it is difficult
by the available simplifications of nodal line plotting for which one has
been proposed. The results of this work, based on observations of
the Volgograd-Baltian mountain range (numerical),
Combined Seismological Expedition, network of stations, and on various
other literature, indicate that without preliminary analysis of a system of
observations there is no reason for overall study in a new region of the
mechanics of earthquakes, or the use of processing of any system of observations
for any purpose whatever. The principles at the base of the proposed
method for studying the prevalent strike and dip, shifts of discontinuities,
etc., can be applied in the solution of a number of other problems. No per-
sonalities are mentioned.

TRUBITSYN, V. P.

AUTHOR: Trubitsyn, V. P. 56-1-31/56

TITLE: The Equation of State of the MgO-Crystal
(Uravneniye sostoyaniya kristalla MgO)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958,
Vol. 34, Nr 1, pp. 221-222 (USSR)

ABSTRACT: The present paper calculates the energy of the MgO-crystal
with the statistical method. The dependence of the energy
on the volume was determined for pressures from zero to 10^7
atmospheres at the temperature zero. At high pressures the
temperature has only little influence. The present paper
uses for the calculations that density of oxygen present in
the lattice at the pressure zero which was determined with
the variation method (reference 2). The magnesium-ion is
only little deformed. The energy is here calculated with
the taking into account of the first quantum correction.
First an expression for the correlation energy is written
down. The energy of the ionic crystal is obtained by
summation of the interaction energy of an ion pair over all
ion pairs of the lattice. The expression obtained for the
energy of the entire crystal is explicitly written down

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The Equation of State of the MgO-Crystal

56-1-31/56

here. A diagram illustrates the curves of the energy of the crystal subtracted from the energy of the free atoms in atomic units. In the range of pressures from zero to 10^6 atmospheres the theoretical curve is approximated by the formula $E(v) = 93,7 \exp(-1,69 v^{1/3}) - 3,495 v^{-1/3} + 0,582$ atomic units per atom. Finally the calculated and experimental values are compared. There are 1 figure and 8 references, 3 of which are Slavic.

ASSOCIATION: Institute for Physics of the Earth AN USSR
(Institut fiziki Zemli Akademii nauk SSSR)

SUBMITTED: July 6, 1957

AVAILABLE: Library of Congress

Card 2/2

TRUBITSYN, V.P.; ULINICH, F.R.

Transition of solid helium to the metallic state at high pressures.
Dokl. AN SSSR 142 no.3:578-580 Ja '62. (MIRA 15:1)

1. Institut fiziki Zemli im. O.Yu.Shmidta AN SSSR. Predstavleno
akademikom M. A. Leontovichem.
(Helium)

TRUBITSYN, V. P.

Transition of solid helium into the metallic phase at high
pressures. Trudy Inst. fiz. zem. no.11:86-89 '60.
(MIRA 13:8)

(Helium) (Phase rule and equilibrium)

TRUBITSYN, V.P.; ULINICH, F.R.

Metallic transition in lithium hydride. Izv. AN SSSR. Ser. geofiz.
no.6:949-950 Je '63.
(MIRA 16:7)

1. Institut fiziki Zemli AN SSSR.

(lithium hydride)

L 25477-66 EWT(1)/FWT(T)/T/EWA(d)/EWP(t) LSP(c) JD
ACC NR: AP6009675 SOURCE CODE: UR/0181/66/008/003/0302/0865

67

B

AUTHOR: Trubitsyn, V. P.

ORG: Institute of Physics of the Earth im. O. Yu. Shmidt AN SSSR, Moscow (Institut Fiziki Zemli AN SSSR)

TITLE: Phase transition in hydrogen crystal

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 862-865

TOPIC TAGS: phase transition, hydrogen, equation of state, crystal lattice vibration, Coulomb interaction, pressure effect, high pressure

ABSTRACT: The author presents an additional analysis concerning the calculation of the equations of state of hydrogen at the phase transition point, which occurs when solid hydrogen is under very high pressure and turns into a monovalent metal. Use is made of various earlier calculations of the energy of the ground state of metallic hydrogen, to which is added the contribution due to the zero-point vibrations of the nuclei, as determined from estimates of the speed of transverse waves in the crystal. The relation between the Coulomb-interaction terms and the zero-point vibration is also discussed. From a comparison of the volume dependence of the total energy in the case of molecular and atomic (metallic) hydrogen it is deduced that the transition from the molecular state to the metallic state occurs at approximately 4.6 million atmospheres. Orig. art. has: 3 figures and 13 formulas.

SUB CODE: 20/ SUBM DATE: 05Aug65/ ORIG REF: 005/ OTH REF: 008-

Card 1/1 CC

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756810015-7

SEREDIN, A.I., inzh.; TRUBITSYN, Ye.G., inzh.

Unresolved problems in the new methods of locomotive construction.
Zhel. dor. transp. 37 no.8:21-23 Ag '55. (MIRA 12:8)
(Locomotives--Construction)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001756810015-7"

YEVDOKIMOV, S.A.; TRUBITSYNA, G.A.

Method for the determination of gas exchange in small animals.
Fiziol. zhur. 46 no. 5:631-633 My '60. (MIRA 13:12)

1. From the Laboratory for Neurophysiological Problems, Pavlov
Institute of Physiology, Leningrad.
(RESPIRATION) (PHYSIOLOGICAL APPARATUS)

TRUBITSYNA, G.A.

Studying the reaction of perspiration in man. Trudy Inst. fisiol. 7:
267-277 '58. (MIRA 12:3)

1. Laboratoriya ekologicheskoy fiziologii (zav. - A.D. Slonim).
Instituta fiziologii im. I.P. Pavlova AN SSSR.
(PERSPIRATION)

OL'NYANSKAYA, R.P.; TRUBITSYNA, G.A.

Conditioned reflex changes in the respiratory gas exchange and
bioelectric activity of the brain and skeletal muscles. Dokl.AN
SSSR 138 no.5:1245-1247 Je '61. (MIRA 14:6)

1. Institut fiziologii im. I.P.Pavlova AN SSSR. Predstavleno
akademikom V.N.Chernigovskim.
(CONDITIONED RESPONSE) (RESPIRATION) (ELECTROPHYSIOLOGY)

41339

27.11.20

S/020/62/146/003/018/019
B144, B186AUTHORS: Isaakjan, L. A., Ol'nyanskaya, R. P., Trubitsyna, G. A.

TITLE: Temperature effects on gaseous metabolism and bioelectric activity of brain and muscles in man during muscular work

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 3, 1962, 728-730

TEXT: The role of muscle activity and of central and peripheral effects in thermoregulation was studied in 5 healthy 20-25 - year-old individuals. Gaseous metabolism was determined with a Böhlau apparatus.

Electroencephalograms and electromyograms of the arm flexor were taken after: 1) muscular work; 2) application of hot-water bags (a) and icebags (b) to the hand without muscular work; 3) muscular work with previous heating (a) and cooling (b). 1) 25 - 52% increase of gaseous metabolism; α-rhythm suppressed; action current increased. 2a) (in the same order) No change or slight reduction; suppression in the 1st minute; no change. 2b) 15 - 20% reduction, restoration after 1 min; similar to 1); but less marked; not always increased. 3a) Sometimes slight increase; 3b) No insignificant suppression in the 1st minute; 15 - 20% increase. 3b) No

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Temperature effects on gaseous ...

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B144/B186

increase, less, 14 - 43% reduction. 1, 2a, and 2b are compared to the state of muscles at rest under normal conditions; 3a and 3b are compared to 1. Conclusions: The accumulation of the applied heat and the heat formed by muscular work impedes the heat exchange and increases the energy consumption and the action currents. The reverse effects result from cooling. Muscle activity reduces the susceptibility of the body to the temperature applied. Temperature affects the excitability of the brain centers during muscular work and consequently also that of the muscle. The reaction in muscular activity at different temperatures is controlled by cortical formations, thermoregulatory hypothalamus centers and motoric centers in brain and spinal cord. There is 1 figure. The most important English-language reference is: T. R. A. Davis, J. Appl. Physiol., 16, 6, 1011 (1961). ✓

ASSOCIATION: Institut fiziologii im. I. P. Pavlova Akademii nauk SSSR
(Institute of Physiology imeni I. P. Pavlov of the Academy of Sciences USSR)

PRESENTED: April 5, 1962, by V. N. Chernigovskiy, Academician

Card 2/3

Temperature effects on gaseous ...

S/020/62/146/003/018/019
B144/B186

SUBMITTED: March 27, 1962

• Card 3/3

ISAAKYAN, L.A.; CL'NYANSKAYA, R.P.; TRUBITSYNA, G.A.

Physiological characteristics of the stimulation distribution in
a muscular system following conditioned reflex changes in respiration
gas exchange. Dokl. AN SSSR 162 no. 3:716-718 My '65. (MIRA 18:5)

1. Institut fiziologii im. I.P.Pavlova AN SSSR. Submitted July 7, 1964.

ISAAKYAN, L.A.; OL'NYANSKAYA, R.P.; TRUBITSYNA, G.A.

Respiratory gas exchange and bioelectric activity of human muscles during a combined effect of temperature and muscular activity on the organism. Opyt izuch. reg. fiziol. funk. 6: 171-179 '63
(MIRA 17:3)

1. Gruppa fiziologii gazoobmena i teploobmena (rukovoditel' - prof. R.P.Ol'nyanskaya) Institut fiziologii imeni Pavlova AN SSSR.